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ABSTRACT

Protective factors were ingrained in the traditional Nez Perce way of life. The imposition of the White way of life introduced alcohol, suppressed protective factors, and facilitated the development of risk factors across all domains. For the past decade, the tribe has obtained federal funding for a variety of substance abuse prevention programs. These programs have included cultural therapy--culturally specific activities designed to revive the traditional Nez Perce way of life and its cultural protective factors. Since existing evaluation instruments did not recognize the unique contribution of culture, an instrument was developed which captured culture as a resource. Six areas of interest were delineated: spirituality; family life and traditions; recreation and celebration; culture; education, jobs, and life skills; and health and medicine. This instrument was administered to 110 tribal adults in 1995, 116 tribal youths in 1997, and 135 tribal youths in 1998. For both adults and youth, greater identification to Nez Perce culture (for youth, specifically spirituality) was related to lower alcohol use. Among youth, greater identification with spirituality was also related to lower drug use. Among youth, however, greater identification with bicultural peer associations, beliefs about education, and involvement in sports were related to higher alcohol and other drug use. (TD)

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The Assessment of Culture as a Protective Factor Among Native Americans: The Survey of Nez Perce Culture

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The Assessment of Culture as a Protective Factor Among Native Americans: The Survey of Nez Perce Culture

Evaluation of Native American programs in the past have often not considered the distinct history and unique culture in designing evaluation instruments (Fleming, 1992). The experience of Evaluation, Management and Training, Inc. (EMT) during our decade-long partnership with the Nez Perce Tribe has shown otherwise–that culture is extremely relevant and a definite area of interest with respect to the use of alcohol, tobacco and other drugs (ATOD). Although the effects of acculturation in relation to substance abuse have been investigated among Spanish speaking peoples (Padilla & Snyder, 1992), no such studies have been conducted among Native Americans. EMT thus developed an acculturation survey unique to the Nez Perce: The Survey of Nez Perce Culture. This paper provides a brief description of the Nez Perce Tribe, the process by which the survey was developed and the psychometric properties of the instrument.

A Brief History of the Nez Perce Tribe

The Past: The land on which the Nez Perce people (Ne-Mee-Poo[1]) have lived for over 8,000 years (Native American Committee, 1990) is located in what is now north central Idaho. Prior to being restricted to the Nez Perce Reservation, their domain encompassed nearly all of central Idaho, the southeast corner of Washington State and the northeast corner of Oregon. The historical Nez Perce region depicted in the map is geographically diverse and spectacular in beauty. The topography of the native lands ranges from soaring peaks, snow capped mountains and thick forests to rolling plains and deep valleys cut out of the land by ancient lava flows and the subsequent mighty rivers winding their way to the Pacific Ocean.

The Nez Perce maintained an intimate relationship with the environment, depending on the lands in which they lived to provide the materials necessary for food and shelter. Toohoolhoolzote, a Nez Perce leader, testified, "The earth is part of my body...I belong to the land out of which I came. The earth is my mother." The tribe maintained a nomadic existence in order to follow animal migration and the growing seasons of food staples. Every able bodied member of the tribe played a crucial role in procuring food. The men and boys fished, trapped and hunted large animals such as buffalo, deer, elk, moose, bear and mountain sheep while the women and girls gathered roots, berries and herbs and prepared food for tribal members.

Life with the tribe required social interdependency; moving from place to place entailed bringing along all possessions which were carried by family members and dogs, and later horses after their introduction to North America. Tepees made from buffalo hide served as portable dwellings which were reassembled fairly quickly. Tule mats served as floor coverings; during winter the floor was dug two feet deep below ground level in order to keep heat inside and the wind out. Another form of shelter was the "long house", a wood dwelling approximately 150 feet long which housed entire

[1]Nee Mee Poo is the name of the Tribe in their native language. The name "Nez Perce" was conferred by French explorers and mistakenly refers to Tribal members as having pierced noses, which they did not.

families and extended family members and offered protection from predators and the cold. Winter afforded tribal women time to sew and weave baskets and bags while the men made ropes of horse hair, fishing nets and hunting arrows. During the early to mid-19th century the long house was also used for religious services.

Nez Perce families were usually large, and included grandparents, aunts, uncles and cousins. Each family member played an important role in tribal functioning, especially the elders. Elders served as "the teachers, advisers, recorders of important events, instructors in living, and care takers of the young." (Native American Committee, 1990, p. 27). The Nez Perce way of life was tightly bound to family, the tribe and the land; their ecological and social interdependence continued undisturbed until the 19th Century, when the delicate homeostasis was disrupted.

Change: The first major exploration of the Pacific Northwest region was conducted by the famous explorers Meriwether Lewis and William Clark. In September of 1805 the Lewis and Clark expedition crossed the treacherous Lolo Pass in the Bitterroot Mountains. Battered by snowstorms and weak from hunger, the explorers were greeted by Nez Perce people who came to their aid and then assisted Lewis and Clark in further exploration of the area. This historical event facilitated an influx of personnel from fur trading companies seeking profit from the abundant mink, otter, fox and beaver which populated Nez Perce country.

Shortly following establishment of the fur trade, encroachment on native lands by Caucasian settlers began. Along with the settlers came Christian missionaries, whose sole goal was to convert Native Americans to Christianity, as evidenced by the comments of the Reverend Jason Lee: "O that these sons of nature may soon be the children of grace." (Josephy, 1971, p. 122). The first missionary to reach Nez Perce lands did so in 1835. He and the others which followed implemented what they considered a "civilized" way of life and converted those willing to Christianity. Many Nez Perce were wary and unwilling to abandon their way of life, however, resulting in a schism between Christian and non-Christian Nez Perce which continues into the present day.

In attempting to control the Nez Perce, the missionaries instituted whipping as a punishment and forced harsh laws upon the people in 1843. Tension mounted between Nez Perce loyal to Christianity, who adhered to missionary teachings and administered the beatings, and those loyal to tribal. Rebellion against missionary takeover occurred in 1845 through a massacre of 13 settlers, two of them missionaries, by Nez Perce warriors. Outraged, the United States government sent military reinforcements to the territory and skirmished ensued with the Nez Perce. An uneasy truce was reached in 1849, but tension remained high due to the continuing influx of settlers and military reinforcements. The United States government attempted to squelch Nez Perce defiance in 1855 through an edict by the first governor of the Washington territory to forcibly relocate the Nez Perce and other tribes to a reservation. This proposal was bitterly opposed by native peoples, and subsequent negotiations by their leaders resulted in a Treaty with the United States government which allowed the Nez Perce to remain in their own territory.

The promises made in the Treaty of 1855 were short-lived, as most made by the United States government were. Conflicts continued, spurred on by the discovery of gold in what is now the town of Orofino. In 1863 a second Treaty was imposed on the tribe which "greatly reduced the original reserved land base of the Nez Perce people to a fraction of its former size, forcing a majority of the

many bands which made up the Nez Perce people to give up their land, which was the prime land which had been their home." (Native American Committee, 1990, p. 29). One consequence of the Treaty of 1863 was bitter divisiveness between Nez Perce who accepted the Treaty and those who rejected it. Nez Perce who accepted the Treaty were not impacted by the land diminishment, while those who rejected it suffered the loss of tribal homeland. This rift has continued into the present day, along with the division between Christian and non Christian Nez Perce.

The Treaty of 1863 and the resulting illegal land grab by settlers culminated in an attempt by the United States military to forcibly relocate the Nez Perce to a greatly reduced reservation. War between the Nez Perce, led by many chiefs of the tribal bands (with the most famous being the legendary Chief Joseph) and government forces, led by General Howard was launched in 1877. The end result was the same fate met by all other native peoples residing in North America--defeat and exile. The surviving Nez Perce people, including Chief Joseph, were forced to journey far from their land to Oklahoma. Along the path to Oklahoma many died of starvation, disease and exposure. In the words of one historian:

> In the end, the war that Howard had brought on by his policy of force cost the United States $1,873,410.43, not including the losses of private individuals. The Nez Perce survivors of the struggle, once a rich and self-sufficient people, were made destitute, and thereafter they became burdens to the American taxpayer. The Indians had lost their horses, cattle, guns, personal possessions, savings of gold dust and cash, homes, freedom--everything but their honor." (Josephy, 1971, p. 613)

In 1889 Nez Perce peoples were finally allowed to return to a reservation created out of a fraction of their ancestral lands. The reservation did not include the homelands of Chief Joseph, who died in exile in 1904. The physician who examined Chief Joseph reported simply that "he had died of a broken heart." (Josephy, 1971, p. 615).

Risk and Protective Factors: The Nez Perce way of life had protective factors ingrained into their culture. The importance placed on familial relationships and the special role given to elders in rearing children provided caring and support, a protective factor identified by Benard (1992). Proscribed roles within the tribe and the need for everyone to contribute fostered high expectations, a sense of purpose and future and encouragement of children's participation, additional factors contributing to resiliency (Benard, 1992). Interdependence helped teach children to be socially competent while the hunter-gatherer way of life introduced problem solving skills. Every member of the tribe was valued, and positive peer pressure helped keep antisocial tendencies in check.

Forced assimilation through exile, boarding schools and immersion into the white majority culture suppressed protective factors. The attitude toward the Nez Perce held by the United States government was summed up by the conquering and arrogant General Howard:

> Toohoolhoolzote, the cross-grained growler...had the usual long preliminary discussion about the earth being his mother, that she should not be disturbed by hoe or plough, that men should subsist on what grows itself, etc., etc. He rallied against the violence that would separate Indians from lands that were theirs by inheritance...He was answered: "We do not wish to interfere with your religion, but you must talk about practicable

things. Twenty times over you repeat that the earth is your mother...Let us hear no more, but come to business at once." (Josephy, 1971, p. xvi)

The imposition of the white way of life introduced alcohol, while the cultural genocide practiced by the government of the United States facilitated the development of risk factors across all domains, including:

- **Society**: oppression
- **Neighborhood/Community**: reduction in successful role models in community; lack of economic/employment opportunities; failure to teach positive values
- **School:** discrimination toward students of color; cultural gap between students and school; absence of ATOD curriculum in school; lack of activities in school and appropriate attitudes by staff that promote school bonding.
- **Individual**: poor or failing academic performance; lack of bonding/commitment to school; mental health problems; poor decision making skills regarding sexuality; inadequate socialization for school; lack of bonding with community and lack of cultural pride; inability to form and maintain healthy relationships; lack of age-appropriate vocational objectives; lack of age-appropriate job training opportunities; poor life skills; lack of bicultural competence; lack of religious and/or commonly held social values; early onset of dysfunctional coping behaviors; risk taking and low harm avoidance; poor self-image.
- **Family**: child abuse and neglect; family conflict and domestic violence.
- **Peer Group**: peer pressure; rejection by peers/isolation; peer antisocial norms.

The Present: The reservation to which the Nez Perce returned to in 1889 comprised a small portion of their ancestral lands. The reservation as it exists in the present maintains the 1889 boundaries and represents a diminishment of Nez Perce land from over 7.5 million acres to less than 90,000 acres. The threat of land take over remains in the present day, for large parts of the reservation itself are owned by non-natives. The result is a patchwork pattern of tribally owned land adjoining areas not owned by the tribe within the boundaries of the reservation. According to the 1990 census, the total population residing on the reservation is 16,160, only a fraction of which are Nez Perce peoples (11.5%).

The Nez Perce Tribe today represents a sovereign nation which is self-governed by elected representatives comprising the Nez Perce Tribal Executive Committee (NPTEC). Judicial power of the Nez Perce Tribe is vested in the Tribal Judiciary, comprised of a judge, juvenile court counselor, prosecutor and law interns who serve as public defenders. The judicial power of the Nez Perce Tribe extends to all case and controversies in law and equity arising under the duly enacted laws of NPTEC. The current Law and Order Code covers four areas of law: (1) criminal, (2) fish and game, (3) civil and (4) child welfare. In the areas of criminal, fish and game and civil law, the

tribe maintains original jurisdiction. Concerning child welfare, the tribe has original and exclusive jurisdiction over all proceedings in which a child is alleged to be a juvenile offender or a minor-in-need of care. The criteria for establishing jurisdiction is the minor must be under 18 years of age, a member of an Indian Tribe, or is eligible for membership, and is the biological child of a member of an Indian Tribe.

Enrolled members of the tribe total 3,100; qualification for enrollment is at least one quarter Nez Perce ancestry. The majority of non-member Native Americans living on or adjacent to the reservation have ties to the Nez Perce Tribe through employment or familial relationships. According to the 1990 census, 1,863 tribal members live on the reservation, with the remainder residing off reservation. The Nez Perce reservation population is overwhelmingly young; 42.5 percent of reservation residents are aged 19 or younger while 23 percent are between the ages of 20 and 34. Only 8.1 percent are over the age of 60.

For the past decade the Tribe has successfully pursued federal funding from the Center for Substance Abuse Prevention in order to provide prevention programming for the community. The first was a Pregnant and Perinatal Women and Infant grant which facilitated the development of a case management program called Nez Perce Futures. Through the Nez Perce Futures program community-wide prevention activities were adopted targeting youth as well as adults. Nez Perce Futures was followed by a High Risk Youth grant (the Students for Success program) which allowed further development of youth prevention programming. The most recent funding obtained involves Targeted Capacity Expansion for Prevention Programs to add HIV/AIDS prevention programming into existing ATOD prevention programs. The program has kept the name "Students for Success."Additional funding to strengthen systems of coordination in the community was recently received through the Office of National Drug Control Policy (ONDCP). Efforts related to this initiative are titled the "Students for Success Coalition."

The Process of Developing the Survey of Nez Perce Culture

Recognizing that existing instruments did not recognize nor factor in the unique contribution of culture staff from both EMT and the Tribe collaborated on the development of an instrument which could capture culture as a resource. Development of the measure began with the evaluator and Nez Perce Futures staff delineating six areas of interest: (1) Spirituality, (2) Family Life and Traditions, (3) Recreation and Celebration, (4) Culture, (5) Education, Jobs and Life Skills and (6) Health and Medicine. Once the areas of exploration were outlined EMT brought in a Native American consultant, Gary Newman, from the Flathead Tribal Department of Health and Human Services, to conduct focus groups with tribal members. The purpose of utilizing focus groups was to explore the question "*What does it mean to be Nez Perce?*" Three focus groups, one for men, one for women and one for teenagers were conducted by Gary Newman, with the assistance of the Prevention Specialist. A total of 36 focus group participants were asked to complete the sentence, "*You are Nez Perce if...*" in the context of the past, present and future relating to each of the six areas.

Scale construction was conducted by the evaluator and the Prevention Specialist. Although the evaluator was ready to approach items through a linear format by using a Likert scale, the Prevention Specialist asserted that the Nez Perce do not approach life in a linear fashion and

suggested instead a circular model, much like the medicine wheel concept. In addition, the Prevention Specialist feared that a linear model may suggest to Nez Perce that one end of the continuum, whether it be acculturated or nonacculturated, was bad and the other end was good. Thus a circular presentation of items was formatted and the evaluator constructed questions in each of the six areas. The draft measure was then given to project staff for review. Their comments and changes were incorporated into a revision, which was then pilot tested using 20 community members representing a broad cross-section of the tribe. Those taking the pilot test included project participants and tribal employees, youth and elders of both genders. The measure was once again revised based on the results of pilot testing. The final version of the acculturation survey was administered to 110 community members (mainly adults) during 1995 in order to determine the relationship between acculturation and the use of alcohol and other drugs.

The Survey of Nez Perce Culture was administered again in 1997 and 1998 to 251 youth as part of the Students for Success evaluation. It will undergo another revision in 2000 based on the desire to measure values related to parenting and to modify alcohol, tobacco and drug use questions to conform to the federal General Performance and Reporting Act (GPRA) requirements. Because there are different GPRA questions for adults versus youth the Survey of Nez Perce Culture will be developed into two versions–one for adults and one for youth. This revised version will be implemented in 2001 as part of the CSAP Targeted Capacity Expansion grant (youth) and the ONDCP Drug-Free Communities grant (adults).

Culture as a Protective Factor

Prevention programming among the Nez Perce for the past decade has included "cultural therapy", culturally specific activities designed to revive the traditional Nez Perce way of life and the concomitant protective factors once ingrained into their culture. By focusing on building connections to the community cultural therapy works toward reducing social isolation and developing a sense of empowerment within women. The provision of culturally relevant activities is theorized to nurture participants through promoting social bonding, interdependence, social competence and problem-solving skills. Open to tribal members in general and aimed specifically at program participants, cultural therapy activities are organized by prevention staff. Nez Perce prevention programming for the past decade has always sought to involve the community at large (adults and youth) in all cultural activities in order to foster a sense of interconnectedness among case managed clients and further promote a non-use norm among tribal members.

Cultural therapy has at its core enhancement of the total person by building upon the unique identity of clients and their family members as Native Americans. In keeping with the Medicine Wheel, the physical side is nurtured by laboring to collect or create in a traditional manner; the emotional aspect is nourished through developing friendships with others and connections to the community. The intellectual needs of clients is expanded through learning about traditions and customs, and the spiritual side is stimulated by connecting with nature and reciting prayers related to various customs and giving thanks. The Nez Perce have a rich cultural legacy which Nez Perce Futures (funded through the initial CSAP grant in the early 1990's) was instrumental in reviving. Providing cultural therapy to the community encouraged tribal healing as a whole, along with family healing. As the Nez Perce strongly believe, the individual cannot be healed unless the family itself is healed. Cultural therapy embodies this belief by targeting the community at large and rejuvenating the

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protective factors once inherent in Nez Perce culture. Given the curative factors personified in the traditional Nez Perce way of life, cultural therapy represents an innovative, appropriate and culturally competent prevention strategy

The Survey of Nez Perce Culture

Survey administration, sample characteristics and psychometric properties will be explored in the subsections which follow for adults and youth.

Adult Results: The Survey of Nez Perce Culture was administered in the summer of 1995 to 110 tribal members in order to determine the relationship between acculturation and the use of alcohol and other drugs (EMT, 1995). The measure describes cultural activities around six areas of interest: (1) Spirituality, (2) Family Life and Traditions, (3) Recreation and Celebration, (4) Culture, (5) Education, Jobs and Life Skills and (6) Health and Medicine. Items are also included related to demographics and ATOD use.

The majority of respondents were female (70%). Nearly all were enrolled as Nez Perce Tribal members (84.5%), whereas a minority were affiliated with other tribes (13.6%). Survey participants were fairly evenly distributed in terms of age, with the largest percentage between the ages of 35 and 54 (30%). Most respondents reported being married, and the average number of children was two. Socioeconomic status of respondents varied, with 37 percent reporting annual income of below $10,000 and 38 percent above $20,000. Only a small percentage of participants were adopted (8.2%).

ATOD Use

When asked about the use of alcohol and other drugs, the largest proportion of survey respondents reported that they did not use either (40.9% and 75.5%, respectively). Among those who used alcohol within the past month, 36.4 percent engaged in binge drinking (defined by consuming five or more drinks in one sitting) at least once during that time period.

Analysis

Variables from the survey were analyzed using factor analysis, the result of which was three distinct factors. The first factor accounted for the majority of the variance, and reflected Nez Perce cultural behaviors. The second factor reflected peer associations. The second and third factors accounted for little variance in the model.

Table 1
Adults: Key Variables in Culture Factor

Variables	Factor Loading
PREFERRED SOURCE OF MEDICINE	0.40092
PREFERRED SOURCE OF FOOD	0.40344
METHOD OF MOURNING	0.41935
HAIR STYLE	0.42095
FREE TIME ACTIVITY	0.42302
SPIRITUAL RELATIONSHIP	0.42328
PREFERRED ARTISTIC ACTIVITIES	0.42583
DINING COMPANIONS	0.42693
FAMILY STABILITY	0.45075
RELIGIOUS ACTIVITIES	0.45139
APPEARANCE	0.45250
EXTENDED FAMILY IN RESIDENCE	0.45385
DANCING LOCATION PREFERENCE	0.45496
PREFERRED LANGUAGE	0.46117
SPEECH PACE	0.46617
RELIGIOUS SINGING FREQUENCY	0.47598
DANCING /DRUMMING	0.49692
POW-WOW DANCING	0.50607
FISHING TECHNIQUES	0.51359
MOURNING ACTIVITIES	0.52133
VISION QUEST	0.53251
NATURAL MEDICINES	0.61388
HEALING ROOTS	0.61843

Regression analyses were then completed, with the alcohol and other drug use responses as the dependent variables (an item relating to tobacco was not added until 1998). Each of the four use items (frequency of alcohol use, frequency of drug use, alcohol use in the past month, frequency of binge drinking) were analyzed using the culture factor and other variables. The results of regression analyses are displayed in Tables 2 through 5.

Table 2
Regression Analysis for Frequency of Alcohol Use

Source	SS	df	MS	Number of obs =	103
Model	26.9785962	5	5.39571924	F(5, 97) =	2.10
Residual	248.943734	97	2.56643205	Prob > F =	0.0716
Total	275.92233	102	2.70512088	R-Squared =	0.0978
				Adj R-Squared =	0.053
				Root MSE =	.602

Alcohol Use	Coef.	Std. Error	t	P>| t |	Beta
Gender	-.3035223	.3615183	-0.840	0.403	-.0834053
Age	.0065245	.0136785	0.477	0.634	.0507813
Culture	.4937168	.1663514	2.968	0.004	.3046703
Married	-.0059472	.1829107	-0.033	0.974	-.0034174
Adopted	.8658384	.5853126	1.479	0.142	.149386
Constant	1.914558	1.354065	1.414	0.161	

Table 3
Regression Analysis for Frequency of Other Drug Use

Source	SS	df	MS	Number of obs =	103
Model	19.28641	5	3.857282	F(5, 97) =	1.77
Residual	211.432037	97	2.17971172	Prob > F =	0.1263
Total	230.718447	102	2.26194555	R-Squared =	0.0836
				Adj R-Squared =	0.0364
				Root MSE =	1.4764

Drug Use	Coef.	Std. Error	t	P>| t |	Beta
Gender	.0018744	.3331694	0.006	0.996	.0005633
Age	.0200101	.0126059	1.587	0.116	.1703181
Culture	.1985003	.1533068	1.295	0.198	.1339571
Married	.0218948	.1685675	0.130	0.897	.0137587
Adopted	-.575983	.5394145	-1.068	0.288	-.1086764
Constant	4.627309	1.247884	3.708	0.000	

Table 4
Regression Analysis for Alcohol Use in the Past Month

Source	SS	df	MS	Number of obs =	103
Model	16.980149	5	3.39618299	F(5, 97) =	1.99
Residual	165.543357	97	1.70663255	Prob > F =	0.0869
Total	182.524272	102	1.78945365	R-Squared =	0.0930
				Adj R-Squared =	0.0463
				Root MSE =	1.3064

Past Month Alcohol Use	Coef.	Std. Error	t	P>| t |	Beta
Gender	-.1931923	.2948055	0.006	-0.655	- .0652718
Age	.0303641	.0111544	1.587	0.008	.2905707
Culture	-.1430032	.1356538	1.295	0.294	-.1085004
Married	-.2283854	.1491572	0.130	0.129	-.1613553
Adopted	-.2689785	.4773019	-1.068	0.574	-.057059
Constant	1.928698	1.104193	3.708	0.084	

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Table 5
Regression Analysis for Binge Drinking

Source	SS	df	MS		
Model	4.73889195	5	.947778391	Number of obs =	103
Residual	106.367904	97	1.09657633	F(5, 97) =	0.86
				Prob > F =	0.5081
Total	111.106796	102	1.08928231	R-Squared =	0.0427
				Adj R-Squared =	0.0067
				Root MSE =	1.0472

Binge Drinking	Coef.	Std. Error	t	P>| t |	Beta
Gender	-.2683854	.2363116	-1.136	0.259	-.116221
Age	.0061709	.0089412	0.690	0.492	.0756886
Culture	-.0723068	.108738	-0.665	0.508	-.0703161
Married	-.1350102	.1195622	-1.129	0.262	-.1222564
Adopted	-.2162082	.3825979	-0.565	0.573	-.0587853
Constant	2.420883	.8851038	2.735	0.007	

In the first equation (Table 2) the culture factor variable is significantly associated with frequency of alcohol use. Note that although the coefficient is positive, the relationship is negative because the culture variable is coded in reverse, whereby high scores indicate identification with mainstream culture. The lowest scores represent biculturalism (identification with both Native American and mainstream culture), while moderate scores represent identification with Nez Perce culture only. The results of this analysis suggests that identification with mainstream culture is related to higher alcohol use within the past 30 days among adults.

In the second equation (Table 3) the culture factor variable is modestly related to the frequency of other drug use, although the relationship is not significant. The culture factor was not related to alcohol use in the past month and the frequency of binge drinking.

Equation three (Table 4) indicates that age is significantly related to alcohol use within the past month; older respondents tended to use alcohol more frequently than their younger counterparts.

Although the factor related to culture was significantly associated with frequency of alcohol use among adults the low R-squares indicate that, collectively, the five independent variables of gender, age, culture, marital status, and adoption status do not explain a great deal of the variation in use among the respondents. These results suggest that further exploration is needed. Administration of the Survey of Nez Perce Culture in 2001 to the adult Tribal population represents an opportunity for several types of additional analyses:

1. Confirmatory Factor Analysis: Can the original culture factor be confirmed on the 2001 sample of adults? If not, what factor(s) are obtained through principal components analysis?
2. Exploratory Factor Analysis: Are different factor structures obtained for men versus women?

The original administration contained predominantly women. The 2001 survey will seek to maintain a 50% balance in order to examine the impact of gender.

3. Regression Analysis: How do the factor(s) relate to the new GPRA ATOD items?

Youth Results: The Survey of Nez Perce Culture was administered in 1997 and again in 1998 to youth residing on or near the reservation. During the first survey 116 youth took part, while 135 participated in the second. Responses over time were not tracked because at the time the Tribe had not given permission for the use of individual identifiers. Male respondents represented 43% of the sample. Youth between the ages of nine and 18 participated in the survey. Elementary school students represented 29% of the sample, middle school students 50% and high school students 31%.

ATOD Use

When asked about the use of alcohol and other drugs, the largest proportion of survey respondents reported that they did not use either (81.1% and 59.8%, respectively). Among those who used alcohol within the past month, 27.2 percent engaged in binge drinking (defined by consuming five or more drinks in one sitting) at least once during that time period.

Analysis

Variables from the survey were analyzed using principal components analysis, the result of which was 32 components. As 50% of the variance was explained by the first five components principal components analysis was re-run using a Varimax rotation for a five factor solution, taking out items which did not load well (defined as .40 and above). In the five factor solution the last three factors were deemed not useful because they contained only a couple of items each which loaded at .40 or above. The first factor was called "Spirituality" because most items related to spirituality. The second factor was called "Community" because it contained items related to peer associations, family and education. The items comprising these two factors are displayed in Table 6. Chronbach's alpha was run on the items comprising each factor in order to obtain a measure of internal consistency. Alpha was .7412 for the culture factor and .7199 for the community factor, indicating that both factors demonstrate good internal consistency.

Table 6
Youth: Key Variables in Factors 1 & 2

Variables in Factor 1	Factor Loading
EXPRESSION OF SPIRITUALITY THROUGH DANCE	0.516
EXPRESSION OF SPIRITUALITY THROUGH POW WOW	0.527
HEALING SUBSTANCE USED DURING SICKNESS	0.564
SPIRITUALITY: MANNER IN WHICH ENEMY IS TREATED	0.571
EXPRESSION OF SPIRITUALITY THROUGH MEDITATION	0.667
HEALING MEDICINES FROM NATURE	0.726
WHERE HEALING MEDICINES ARE OBTAINED	0.744
Variables in Factor 2	Factor Loading
EDUCATION PHILOSOPHY	0.411
EDUCATION: IMPORTANCE OF HISTORY	0.420
EXPRESSION OF SPIRITUALITY THROUGH SWEAT	0.443
HUNTING: FIRST KILL CELEBRATION	0.446
CLOSENESS OF RELATIVES	0.493
FREE TIME: BASKETBALL	0.555
ETHNICITY OF PEERS IN COMMUNITY	0.604
ETHNICITY OF PEERS IN HIGH SCHOOL	0.625
ETHNICITY OF PEERS IN MIDDLE SCHOOL	0.659

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Regression analyses were then completed, with the alcohol and other drug use responses as the dependent variables (an item relating to tobacco was not added until 1998). Each of the four use items (frequency of alcohol use, frequency of drug use, alcohol use in the past month, frequency of binge drinking) were analyzed using the culture factor and the community factor. The results of regression analyses are displayed in Tables 7 through 10.

Table 7
Regression Analysis for Frequency of Alcohol Use

Source	SS	df	MS	Number of obs =	147
Model	0.566	2	0.283	F(2, 144) =	1.064
Residual	38.264	144	0.266	Prob > F =	0.348
Total	38.830	146		R-Squared =	0.015
				Adj R-Squared =	0.001
				Root MSE =	.52

Alcohol Use	Coef.	Std. Error	t	Sig.	Beta
Spirituality Factor	9.651E-02	.120	0.802	.424	.187
Community Factor	-4.121E-02	.130	-0.318	.751	-0.074
Constant	1.958	0.049	40.040	.0001	

Table 8
Regression Analysis for Frequency of Drug Use

Source	SS	df	MS	Number of obs =	147
Model	12.258	2	6.129	F(2, 144) =	10.792
Residual	81.783	144	0.568	Prob > F =	0.0001
Total	38.830	146		R-Squared =	0.130
				Adj R-Squared =	0.118
				Root MSE =	.75

Drug Use	Coef.	Std. Error	t	Sig.	Beta
Spirituality Factor	2.184	.062	3.929	.0001	.305
Community Factor	-0.155	.062	-2.479	.014	-0.193
Constant	2.184	.062	35.132	.0001	

Table 9
Regression Analysis for 30 Day Alcohol Use

Source	SS	df	MS	Number of obs =	145
Model	40.837	2	20.419	F(2, 144) =	31.249
Residual	92.225	142	0.649	Prob > F =	0.0001
Total	133.062	144		R-Squared =	0.307
				Adj R-Squared =	0.297
				Root MSE =	.81

Alcohol Use	Coef.	Std. Error	t	Sig.	Beta
Spirituality Factor	.498	.067	7.453	.0001	.521
Community Factor	-.185	.067	2.968	.0001	-0.193
Constant	2.357	.067	1.414	.0001	

Table 10
Regression Analysis for Problem Drinking

Source	SS	df	MS	Number of obs =	147
Model	8.005	2	4.003	F(2, 144) =	6.531
Residual	88.253	144	0.613	Prob > F =	0.002
Total	96.259	146		R-Squared =	0.083
				Adj R-Squared =	0.070
				Root MSE =	.78

Problem Use	Coef.	Std. Error	t	Sig.	Beta
Spirituality Factor	-.206	.183	-1.126	.262	-.254
Community Factor	.447	.197	2.270	.025	0.511
Constant	2.192	.074	29.513	.0001	

Unlike the analysis with the adult population, frequency of drinking was not related in any statistically significant manner to either factor from the Survey of Culture (Table 7). Statistically significant relationships were found between one or both of the factors and the other AOD use items, however. Table 8 shows that both the Spirituality Factor and Community Factor are related to the frequency of drug use. Less spirituality appears to be related to greater frequency of drug use among youth. The opposite was observed for the community factor: greater biculturalism appeared to be

associated with greater frequency of drug use. The low R-squared values suggests that both of these factors explain little of the variance in frequency of drug use, however.

Table 9 shows a statistically significant relationship between both the spirituality and community factors to alcohol use within the past 30 days, where greater spirituality is associated with less alcohol use. Again the opposite was observed for the community factor: greater biculturalism appeared to be associated with more alcohol use during the past 30 days. R-squared was moderate (.30), indicating that these factors account for a moderate proportion of the variance in past 30 day alcohol use. In relation to problem drinking identification with mainstream culture appeared to be associated with greater problem drinking (community factor). No statistically significant relationship was observed between problem drinking and the spirituality factor. R-squared was small, indicating that these factors account for little variance in problem drinking.

These initial results are promising, suggesting that spirituality (identification with Tribal and/or church) serves as a protective factor against AOD use. These results also suggest that identification with both cultures (Tribal and mainstream) in terms of peer relations, views toward education and involvement in sports is related to higher AOD use. These results suggest that further exploration is needed in order to draw more definitive conclusions. Administration of the Survey of Nez Perce Culture in 2001 and 2002 to the youth Tribal population represents an opportunity for several types of additional analyses:

1. Confirmatory Factor Analysis: Can the Spirituality and Community factors be confirmed on the 2001 sample of adults?
2. Exploratory Factor Analysis: Are different factor structures obtained for men versus women? Related to age?
3. Regression Analysis: How do the factor(s) relate to the new GPRA ATOD items?
4. Time Series: Do youth's responses change over time? As a result of being involved in Students for Success activities?

Summary

The Survey of Nez Perce Culture was developed in collaboration between EMT and the Nez Perce Tribe. An emphasis on culture as a protective factor is central to our beliefs about effective programming with both youth and adults, and the results of our analyses appear to support that theory. For both adults and youth greater identification to Nez Perce Culture (for youth specifically spirituality) is related to lower alcohol use. Among youth greater identification with spirituality is also related to lower drug use. Among youth, however, greater identification with biculturalism related to peer associations, beliefs about education and involvement in sports are related to higher AOD use. Future exploration will be undertaken in order to more clearly define and discern these relationships.

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